



2012 Arbovirus Management Protocol

Contact: [Diep Hoang Johnson](#)
Vectorborne Coordinator
Wisconsin Department of Health Services
Division of Public Health
Phone 608-267-0249 Fax 608-261-4976

As during previous years, we will continue to confirm all presumptive positive laboratory results reported by physicians and private laboratories at the Wisconsin State Laboratory of Hygiene (WSLH). Case-patients testing positive at the WSLH will be reported to CDC as confirmed. Case-patients for whom specimens are unavailable for confirmatory testing at the WSLH will be reported to CDC as probable. Prompt notification of all IgM antibody test results to the DPH is essential in order for us to obtain specimens at commercial laboratories for confirmation.

The Dead Bird Reporting Hotline (1-800-433-1610) and dead bird testing for WNV will again be available for callers starting May through October. The DPH will update its website with a listing of the number of cases and update the Wisconsin map for all WNV activities by county as new information is being received.

Important information for 2012:

- 1) The hotline staff at the USDA, Wildlife Services office, **Anita Nelson** will answer all questions regarding dead birds. Local health departments can call the Dead Bird Reporting Hotline at 1-800-433-1610. As soon as a county has **one** positive dead bird result, WNV testing of dead birds in that particular county will be discontinued for the remainder of the season.
***Please note that the shipping has been changed from FedEx to UPS shipping (refer to attachment C) since 2011; do not use old labels because the shipping company and the account number may change from year to year and the old account may no longer be active. Donna Jenkins from the USDA office (608-837-2727) can mail or email UPS shipping labels to local health departments (LHDs) upon request as needed; the UPS account number is for internal use only and should not be given to the public.**
- 2) The current West Nile Bird Reporting system PHIN URL is <https://phin.wisconsin.gov/westnile>. If you experience any problems with the URL site, please report it to the WI IT Help Desk at 608-261-4400.
- 3) Powassan virus (POWV), a rare tickborne arbovirus seen in WI, is reportable under the Wisconsin statutory mandates as part of the arbovirus group and is a nationally notifiable disease reportable to CDC. Currently, there are no commercial tests available for POWV, but testing is available at CDC. POWV test requests should be sent to the WSLH to be forwarded to CDC for testing. For a summary of vectorborne diseases detected in 2011 please go to <http://www.dhs.wisconsin.gov/communicable/EpiExpress/index.htm>
- 4) West Nile virus and Lyme disease materials can now be ordered directly from the Department of Health Services Forms Center.

WNV Publications:

- P-42107 - “Fight the Bite” - West Nile Virus in Wisconsin
- P-42166 - Mosquito-borne Pocket Card: “Use Protection, Avoid Infection”
- P-49460 - West Nile Virus is Something You Can Do Something About with a Few Simple Steps, CDC-998593, English.
- P-49460S - West Nile Virus is Something You Can Do Something About with a Few Simple Steps, CDC-998593, Spanish.
- P-00203- West Nile Virus and Transplant Recipients, CDC-99-9919.

Lyme Publications:

- P-49287 - CDC Lyme Disease brochure- A Public Information Guide, English.
- P-49287S - CDC Lyme Disease brochure- A Public Information Guide, Spanish.
- P-49466 - Protect yourself from tick-borne disease - Tick card: English, CDC-CS #109745.
- P-49466S - Tick card: Protect yourself from tick-borne disease, Spanish, CDC-CS #109745.

Use the link to access the order form:

<http://www.dhs.wisconsin.gov/forms/PrintFormsOnline.htm>

Follow the instructions to fill out the form F-80025A (for up to 15 different brochure types) or F-80025B (>15 different brochure types) and email the form to Cris Caputo at dhsfmdphpph@dhs.wi.gov or if you need assistance, call (608) 267-9054.

Arbovirus Surveillance in Wisconsin

Arboviral infections may be asymptomatic or result in a febrile illness of variable severity, sometimes associated with neurologic symptoms ranging from headache to aseptic meningitis and encephalitis. Arboviral encephalitis cannot be distinguished clinically from infection with other neurotropic viruses. Symptoms include fever, headache, confusion or other alterations in sensory, nausea, or vomiting. Signs of severe illness may include evidence of elevated intracranial pressure, meningeal irritation, cranial nerve palsies, paresis or paralysis, altered reflexes or convulsions. Less common neurological syndromes can include cranial and peripheral neuritis/neuropathies, including Guillain-Barré syndrome. Arboviruses causing encephalitis include the following:

Mosquito-borne viruses occurring in the United States:

- West Nile virus (WNV)
- St. Louis encephalitis (SLEV)
- California serogroup viruses [serogroup includes La Crosse (LACV), Jamestown Canyon (JCV), Snowshoe Hare (SSHV), and California encephalitis (CEV)]
- Eastern equine encephalitis (EEEV)
- Western equine encephalitis (WEEV)

Tickborne virus occurring in United States:

- Powassan encephalitis virus (POWV)

Mosquito-borne viruses associated with traveling to an endemic country:

- Dengue virus (DENV)
- Japanese encephalitis virus (JEV)
- Chikungunya virus (CHIKV)

These viruses may also cause non-neuroinvasive syndromes, most commonly manifesting as febrile illnesses. These are non-localized, self-limited illnesses with headache, myalgias, and arthralgias and sometimes accompanied by a skin rash or lymphadenopathy. Although rare, non-neuroinvasive syndromes caused by these viruses may also include myocarditis, pancreatitis or hepatitis. Laboratory confirmation of arboviral illnesses lacking a documented fever does occur, and overlap of the various clinical syndromes is common.

WISCONSIN CASE DEFINITION: An illness is classified as a case if it meets one or more of the following clinical criteria, **AND** one or more of the following laboratory criteria, **AND** occurred when and where there is a high likelihood of vector activity.

A. **REPORTING CRITERIA:** Laboratory evidence with a compatible clinical illness.

- Laboratories should report all positive test results.
- Providers should report clinical information, patient's demographic, and onset date.

B. **CLINICAL CRITERIA FOR DIAGNOSIS:** Clinical cases of arboviral diseases are classified according to the following criteria:

Neuroinvasive disease requires the presence of fever ($\geq 100.4^{\circ}\text{F}$ or 38°C) and at least one of the following signs and symptoms, as documented by a physician and in the absence of a more likely clinical explanation:

- Acutely altered mental status (e.g., disorientation, confusion, memory deficit, stupor, coma), OR
- Aseptic meningitis, encephalitis, OR
- Acute flaccid paralysis (AFP); AFP may result from anterior "polio" myelitis, peripheral neuritis, or post-infection peripheral demyelinating neuropathy (i.e., Guillain-Barré syndrome), OR
- Stiff neck, seizures, limb weakness, sensory deficits, abnormal reflexes, abnormal movements, cranial nerve palsies, OR
- Pleocytosis (increased white blood cell count) in cerebrospinal fluid (CSF) or abnormal neuroimaging

Non-neuroinvasive disease requires the presence of documented fever ($\geq 100.4^{\circ}\text{F}$ or 38°C), as measured by the patient or clinician, the absence of neuroinvasive disease (above), and the absence of a more likely clinical explanation for the illness. Signs and symptoms may include, fever, headache, stiff neck, myalgias, arthralgias, rash, lymphadenopathy, nausea or vomiting.

- C. **LABORATORY CRITERIA FOR CONFIRMATION:** Cases of arboviral disease are classified according to the following laboratory criteria:

Confirmed result:

- Isolation of virus from or demonstration of specific viral antigen or nucleic acid in tissue, blood, CSF, or other body fluid, OR
- Fourfold or greater change in virus-specific quantitative antibody titers between acute (within 2 weeks after onset date) and convalescent sample (2-4 weeks after onset date), OR
- Virus-specific immunoglobulin M (IgM) antibodies in CSF or serum by antibody-capture enzyme immunoassay (Capture EIA) AND confirmed by demonstration of virus specific neutralizing antibodies in the same or later specimen (PRNT).

Probable result:

- Virus-specific IgM antibodies in CSF or serum detected by antibody-capture EIA or MIA, but with no other testing in the same or later specimen.

Arboviral transmission varies according to local climatic conditions and West Nile virus-specific IgM antibody can be detectable for more than a year following infection. Therefore, the importance of a recent travel history and thorough serologic testing cannot be overemphasized. IgG antibody can be detected throughout a person's lifetime after an infection. Thus, a positive IgG and a negative IgM may indicate previous infection at some point in time.

Laboratory Testing Capability (Humans)

Positive results from a single serologic test can be misleading because serologic cross-reactivity often occurs between closely related arboviruses. It is therefore recommended that an arbovirus panel (which includes testing for WNV, SLEV, LACV/CAV, EEEV, and WEEV) be requested when there is clinical suspicion of arboviral disease, rather than requesting individual tests. Powassan virus testing at CDC may be added to the arbovirus panel if patient exhibits signs and symptoms including confusion, memory loss, speech difficulty, change in mental status, encephalitis or meningitis.

Available diagnostic tests at the Wisconsin State Laboratory of Hygiene (WSLH) include IgM capture enzyme immunoassays (IgM CEIA) that will identify IgM antibodies in serum and cerebrospinal fluid (CSF) specific to LACV and EEEV. A microsphere immunoassay is used to test serum and CSF for IgM specific to WNV and SLEV. Clinicians should also consider enterovirus PCR and culture testing of the CSF (WSLH test code 1507 pcr) for patients with apparent aseptic meningitis. All other arboviruses will be forwarded to CDC for testing.

Confirmatory testing: The WSLH will no longer perform the Plaque Reduction Neutralization assay (PRNT) on equivocal results, but will send them to CDC for confirmation. The decision to perform confirmatory testing will require approval of the Division of Public Health (DPH) or the WSLH. Confirmatory testing for other arboviruses (LAC, EEE, SLE, POW, and DEN) will continue to be performed by the CDC.

Fee-exempt testing: Fee-exempt testing for arbovirus infection will be offered to clinicians whose patients meet one of the following criteria:

- Confirmatory testing of positive test results performed at laboratories other than the WSLH;
- The patient is over 65 years old with signs and symptoms of meningitis (fever, headache and stiff neck) or encephalitis (fever, headache, and altered mental status ranging from confusion to coma) with no other laboratory diagnosis; or
- The patient has a diagnosis of Guillain-Barré syndrome and no other laboratory diagnosis.
- The local health department may request fee-exempt testing be performed if the case-patient lacks insurance coverage or the ability to pay.

Fee-for service: The WSLH will again provide fee-for-service testing for arbovirus infections. Meeting clinical criteria is **not** required to submit serum or CSF specimens to the WSLH for fee-for-service arboviral screening.

Collection and shipping of clinical specimens to the WSLH

- Specimens submitted to the WSLH for fee-exempt testing must include the WSLH **Attachment A - Enhanced Wisconsin Arbovirus Surveillance Form 2012**.
- Specimens submitted for fee-for-service testing must use the **WSLH CDD Requisition Form B**.
- At least 3-7 mls of serum and/or ≥ 1 ml of CSF in sterile screw-capped vials should be submitted on cold packs. Please contact the WSLH-Clinical Stock Orders, for ordering of kits and WSLH CDD Requisition Form B at 1-800-862-1088 or 608-265-2966.
- It is **essential** that the lab requisition forms be as complete as possible including **the patient name, city, date of birth, specimen type, submitting agency, collection date and time**.

Positive Human Arbovirus Reporting and Follow-Up

- The WSLH reports positive human arboviral test results by electronic reporting (ELR) to DPH and reports all test results to the agency submitting the sample.
- The DPH will promptly report by phone all positive human arboviral test results to the LHD where the patient resides. Vice versa, the LHD should report by phone to DPH any presumptive positive from physicians or commercial labs within 24 hours even if cases have been entered into Electronic Disease Surveillance System (WEDSS) so that we can quickly obtain specimens from the private labs for confirmation. Most commercial labs will throw out their samples after one week.
- If it is determined that the patient does not reside within the jurisdiction of the LHD, that health department is expected to forward the case to the appropriate LHD for follow up.
- The LHD should contact the physician and the submitting laboratory or hospital infection preventionists (IP) regarding these test results.
- The LHD should ensure the test results have been relayed to the healthcare provider, patient, or hospital IPs before any information will be released to the public.
- In addition to the WI Arbovirus follow-up form, all **confirmed WNV** positive cases should also have the CDC supplementary form filled out to collect patient's medical history and complications. Both forms have been programmed into WEDSS (see attachment E).
- Once the follow-up has been completed and the paperwork returned to DPH, if the case definition is met then the case will be counted in the state total, the DHS WNV website will be updated to reflect the case, and the case will be reported to CDC.
- With the exception of the first human **confirmed case** of West Nile virus infection identified in the state for the season, an unusual outbreak of cases, or introduction of a new arbovirus into the state, any of which may prompt a statewide press release, the decision about releasing information on subsequent positive cases will be up to the LHD. The DPH can provide the LHD with a press release template if needed.
- The only information DPH will release regarding positive human cases includes acknowledgement of the positive case, the onset date of the illness, and county of residence of the positive individual. No demographic information (such as sex, age, or hospitalization status of a patient) will be released. Protection of an individual's privacy is of paramount concern when releasing information on human infections. The same criteria will apply should any individuals succumb to the disease.

2012 Bird Surveillance (WNV)

Corvid Surveillance (crows, blue jays, and ravens):

The DPH is requesting the report of **all** sick and dead corvids during May 1 to October 31 for WNV testing. Reporting of other dead/sick species is also encouraged.

- Birds that are suitable for testing outlined in **Attachment C - 2012 West Nile Virus Corvid Collection/Shipment Instructions** will be collected and shipped to the USDA, Wildlife Services in Sun Prairie, Wisconsin.
- **UPS shipping** will be used to transport dead birds for testing to USDA (see attachment C for complete information). The USDA will be responsible for transporting the birds to the University of Wisconsin Veterinary Diagnostic Lab (WVDL) for tissue extraction and submission for WNV using PCR performed on a skin biopsy. **Please contact the USDA office, Donna Jenkins at 608-837-2727, or Anita Nelson at the dead bird reporting hotline at 1-800-433-1610 to request UPS shipping labels as needed. Shipping labels can be sent by mail or email to LHDs with the UPS account number to be used internally and not to be shared with the public.**
- When one WNV positive bird is detected within a county, corvid specimens from that county will no longer be accepted for testing.
- We are relying on assistance from LHDs as well as other local entities including animal control staff to continue to report dead and sick birds on the Public Health Information Network (PHIN). This will provide data entry and tracking capabilities for reporting sick and dead birds, printing reports, and accessing summaries of dead bird reporting and testing. Please do not send reports to DPH for entry.
- The system can be accessed via the PHIN at <https://phin.wisconsin.gov/han>. If you are not a registered PHIN user, click the Register tab and follow the directions to become a registered user. This should be done as soon as possible. Reports may be sent to USDA for entry into the PHIN if needed.
- All WNV test results from corvid bird surveillance will be posted to the PHIN West Nile virus bird reporting system by the WVDL and will be available to LHDs as the tests are completed.
- DPH will promptly report WNV positive bird(s) by phone or email to the respective LHD. In addition, the Hotline staff will call the LHD with the positive bird to notify them of the bird's specific information (i.e. where and when it was collected). LHDs may also access the PHIN WNV Bird Reporting system to find information on all submitted birds.
- We request that the LHD contact the bird submitter (i.e., animal control officer or veterinarian) if the submitter was not an LHD staff, to inform them of positive test results.
- With the exception of the first WNV birds identified in the state, which may be statewide news events, the LHD will decide whether to release information to the public on subsequent positive cases. A press release template is available from the DPH.
- Once the LHD is informed of positive test results, information on WNV positive birds will be posted to the DHS WNV web site with the next update.
- The Sick/Dead Bird reporting form is included below as **Attachment D – Wisconsin West Nile Virus Surveillance: Sick/Dead Bird Reporting Form 2012.**

Non-Corvid Surveillance (birds and mammals)

WDNR West Nile Virus Non-Corvid Surveillance Plan for 2012: WDNR surveillance efforts will focus on any non-corvid bird or mammal that is showing clinical signs of WNV, or that is involved in a significant mortality event (die-off of >5 individuals), and as part of routine diagnostic testing during necropsies. Reports of sick/dead non-corvid birds should be referred to the local DNR office/Wildlife Biologist or the Dead Bird Hotline (1-800-433-1610). Reports of sick/dead mammals should be referred to the local DNR office/Wildlife Biologist.

Equine Surveillance (WNV)

- The Wisconsin Veterinary Diagnostic Laboratory (WVDL) will continue to notify DPH of positive results.
- The DPH will forward, either by phone or by FAX, basic information on the animal and the test results to the LHD where the animal or animal owner resides. Specific information on individual cases can be requested from the DPH. Please be aware that equine information related to arboviral surveillance held by LHD staff **is not** protected by medical confidentiality. Past requests to LHD for equine information resulted in health departments being legally obligated to provide the information requested.
- Once the LHD, veterinarian, and horse owner are informed of the test results, information on WNV positive horse cases will be posted to the DPH WNV web site with the next update. Information posted will only identify a positive horse and the county where it resides.

Attachments:

1. **Attachment A:** WSLH Enhanced Wisconsin Arbovirus Surveillance Form (rev05/12). This form should be used to order human arbovirus testing, enclosed with the samples, and send to WSLH.
2. **Attachment B:** Arbovirus Infection Follow-up Form, CDES 103 (rev7/10).
3. **Attachment C:** West Nile Virus Corvid Collection/Shipment Instructions (rev05/12).
4. **Attachment D:** Wisconsin West Nile Virus Surveillance- Sick/Dead Bird Reporting Form (rev05/12).
5. **Attachment E:** CDC Supplementary Questionnaire for Confirmed WNV (rev04/11)

Attachment A: Enhanced Wisconsin Arbovirus Surveillance (rev05/12)

WISCONSIN STATE LABORATORY OF HYGIENE

Patient Name (Last, First) _____ Patient Address _____ Patient City _____ Patient State if not Wisconsin _____ Age or Date of Birth: _____ Patient Sex: M / F	SUBMITTING AGENCY: (Name & Address) Physician's Name _____ Agency Telephone #: _____ SLH Agency#: _____ Bill to: 609 Study: Arbo Surv
---	---

Specimen Type: ___ CSF (*must be iced in transit*) ___ Acute Serum ___ Convalescent Serum
(*Note: Both CSF and serum are recommended in acute cases.*)

Collection Date: _____ **Illness Onset Date:** _____

Hospitalized? ☐ Yes ☐ No **Travel History:** _____

Reason for Testing:

(**Note: The request must meet one of the following criteria to qualify for fee-exempt testing**)

- ☐ Confirmatory testing of positive test results performed at laboratories other than the WSLH
- ☐ The patient is over 65 years old with signs and symptoms of meningitis (fever, headache and stiff neck) or encephalitis (fever, headache, and altered mental status ranging from confusion to coma) with no other laboratory diagnosis
- ☐ The patient is diagnosed with Guillain-barre' syndrome with no other laboratory diagnosis
- ☐ Approved by local health department

WSLH Test Names & Codes

-
- ☐ Eastern Equine Encephalitis IgM CEIA Ab (2437M)
 - ☐ La Crosse Encephalitis IgM CEIA Ab (2440M)
 - ☐ West Nile Virus/ St. Louis Encephalitis IgM (2443)
 - ☐ Arbovirus IgM Panel (2435)

Specimen Shipping Instructions: CSF and serum must be shipped with cool-pack; SLH kit #22 or equivalent may be used.

Specimens should be shipped to: Wisconsin State Laboratory of Hygiene, 465 Henry Mall, Madison, WI 53706

(*Note: Separate specimens and forms should be submitted if other testing is desired.*)

Attachment B: Wisconsin Arbovirus Infection Follow-up Form

Department of Health Services
Division of Public Health

CDES # 103 (07/10)

Wisconsin Arbovirus Infection Follow-up Form

Patient / Physician Information					
Patient's Name: _____			Patient Phone: _____		
Street Address: _____			County of Residence: _____		
City: _____			State: _____		Zip Code: _____
Agency Reporting (name and address): _____					
Physician (name and address): _____			Physician Phone: _____		
LHD Reporting: _____			Date reported to HD: ____/____/____		Date Rec'd at LHD: ____/____/____
Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown	Date of birth: ____/____/____	Ethnicity: <input type="checkbox"/> Hispanic <input type="checkbox"/> Non-Hispanic <input type="checkbox"/> Unknown	Race: <input type="checkbox"/> American Indian or Alaskan Native <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or Pacific Islander	<input type="checkbox"/> Asian <input type="checkbox"/> White <input type="checkbox"/> Unknown	
Was the patient pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Patient hospitalized? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Admission date: ____/____/____		Patient died from this illness? <input type="checkbox"/> Yes ____/____/____ <input type="checkbox"/> No <input type="checkbox"/> Unk	
Hospital: _____		Discharge date: ____/____/____			
Arbovirus Infection					
<input type="checkbox"/> West Nile virus		<input type="checkbox"/> La Crosse		<input type="checkbox"/> Dengue	
<input type="checkbox"/> Eastern Equine Encephalitis (EEE)		<input type="checkbox"/> Western Equine Encephalitis		<input type="checkbox"/> St. Louis Encephalitis	
<input type="checkbox"/> Chikungunya		<input type="checkbox"/> Powassan		<input type="checkbox"/> Other: _____	
Laboratory Testing					
	Collection Date	Specimen Source (e.g. serum, CSF)	Test Method (e.g. PCR, EIA)	Arbovirus test (agent/antibody)	Results (positive, negative, or equivocal and index/titer)
1					
2					
3					
4					
Laboratory performing test: <input type="checkbox"/> WSLH <input type="checkbox"/> CDC <input type="checkbox"/> Commercial Laboratory (please specify) _____					
(Note: IgM+ results from commercial labs must be verified at the WSLH or CDC. A positive IgG and negative IgM usually indicates past infection.)					
Clinical Information					
Signs and Symptoms: Date of Onset: ____/____/____ <input type="checkbox"/> Asymptomatic					
<input type="checkbox"/> Fever <input type="checkbox"/> Chills <input type="checkbox"/> Rash <input type="checkbox"/> Headache <input type="checkbox"/> Photophobia <input type="checkbox"/> Fatigue/Weakness <input type="checkbox"/> Muscle Aches <input type="checkbox"/> Joint Pain <input type="checkbox"/> Stiff Neck <input type="checkbox"/> Nausea <input type="checkbox"/> Vomiting <input type="checkbox"/> Diarrhea <input type="checkbox"/> Disorientation <input type="checkbox"/> Memory deficit <input type="checkbox"/> Confusion <input type="checkbox"/> Slurred speech <input type="checkbox"/> Coma <input type="checkbox"/> Tremors <input type="checkbox"/> Convulsions <input type="checkbox"/> Seizures <input type="checkbox"/> Gait/balance difficulty <input type="checkbox"/> Other (please specify) : _____					
Was meningitis, encephalitis, or acute flaccid paralysis (AFP) documented? <input type="checkbox"/> Meningitis <input type="checkbox"/> Encephalitis <input type="checkbox"/> AFP					
If DENGUE, did the patient have any of the following during their illness? Previous history of dengue: year _____					
<input type="checkbox"/> Petechiae <input type="checkbox"/> Purpura/Ecchymosis <input type="checkbox"/> Vomit with blood <input type="checkbox"/> Blood in stool <input type="checkbox"/> Nasal bleeding <input type="checkbox"/> Bleeding in gums <input type="checkbox"/> Blood in urine <input type="checkbox"/> Vaginal bleeding <input type="checkbox"/> Pleural or abdominal effusion <input type="checkbox"/> Eye pain <input type="checkbox"/> Conjunctivitis <input type="checkbox"/> Body pain <input type="checkbox"/> Pallor or cool skin <input type="checkbox"/> Jaundice <input type="checkbox"/> Plasma leakage <input type="checkbox"/> Thrombocytopenia <input type="checkbox"/> Rapid, weak pulse <input type="checkbox"/> Narrow pulse pressure <input type="checkbox"/> Other (please specify) : _____					
Risk of Exposure					
1. During the 30 days prior to the onset of illness, did the patient do any of the following:					
<input type="checkbox"/> Receive blood or blood products (transfusion) Date of transfusion ____/____/____					
<input type="checkbox"/> Receive organ transplant Date of transplant ____/____/____					
2. During the 14 days prior to the onset of illness did the patient travel (excluding normal travel)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown					
If yes: Start date: ____/____/____ End date: ____/____/____ Location: _____					
3. Did the patient have a known history of mosquito exposure and/or bites within the 14 days prior to the onset of illness?					
<input type="checkbox"/> Yes, bites <input type="checkbox"/> Yes, exposure only <input type="checkbox"/> No exposure <input type="checkbox"/> Unknown					
4. Did the patient have a known history of tick exposure and/or bites within the 14 days prior to the onset of illness?					
<input type="checkbox"/> Yes, bites <input type="checkbox"/> Yes, exposure only <input type="checkbox"/> No exposure <input type="checkbox"/> Unknown					
5. Does the patient use mosquito/tick repellent that contains DEET when outdoors for <u>more than 30 minutes</u> :					
<input type="checkbox"/> Always <input type="checkbox"/> Most of the time <input type="checkbox"/> Sometimes <input type="checkbox"/> Never					
6. During the 30 days prior to the onset of illness, did the patient do any of the following:					
<input type="checkbox"/> Donate blood or blood products Date ____/____/____ Identified by donor screening: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown					
<input type="checkbox"/> Donate organs Date ____/____/____					
Agency and contact information: _____					
If WEST NILE VIRUS					
7. Was the patient infected in utero? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown					
8. Was the patient breastfeeding at the time of symptom onset? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown					

**Attachment C: WEST NILE VIRUS
CORVID COLLECTION/SHIPMENT INSTRUCTIONS (rev05/12)**

1. Collect freshly dead, non-scavenged crows, blue jays, and ravens. The corvid carcass should be free of maggots and strong odor, and have intact eyes. ***
2. Live sick birds should be humanely euthanized by injection of barbiturate euthanasia solution or by cervical dislocation.
3. Wear rubber gloves when handling sick or dead birds. If you have no gloves, insert your hand into a clean plastic bag, pick up the bird with the bagged hand, invert the bag over the bird and seal the bag.
4. Freeze birds as soon as possible after collection.
5. Place each bird in an individual plastic bag and seal. If more than one bird is shipped, each bag must be identified. Double bag the individual carcasses as a group.
6. For each bird or group of birds submitted from one location, complete a “Wisconsin West Nile Virus Surveillance: Sick/Dead Bird Reporting Form”. Include a copy of this form with each submitted bird. Information needed for each bird must include:
 - a. species
 - b. date collected
 - c. location (e.g. street address/city/zip code, or township/section/range)
 - d. found dead or euthanized
 - e. additional history as requested on the Sick/Dead Bird Reporting Form

*Cooperators (who have access) may enter the information on the PHIN system and then include the printout or reporting form OR the information will be entered on the PHIN system for you by the Dead Bird Hotline Staff when the package is received.
7. Birds can be shipped in Styrofoam or plastic coolers placed inside a cardboard box as the final shipping container. Insert newspaper or other fill into the space between the sides of the box and the cooler to prevent breakage or leakage. Line the cooler with a large plastic bag and pack the carcasses in the cooler with ice packs. Place crumpled newspaper or similar absorbent material into the cooler with the bagged carcasses to fill unused space, keep the ice packs in contact with the carcasses, and provide insulation. Tape the cooler or box shut with strapping tape.
8. Place the “Sick/Dead Bird Reporting Form” in a Ziploc bag and place the Ziploc bag in the shipping container with specimen.

9. **Arrange shipment via UPS** for delivery to the USDA, APHIS, Wildlife Services Program.

DO NOT SHIP PACKAGES ON FRIDAYS!

- a. Fill out the date, your name, company/agency, address, and telephone number.
- b. Check to make sure the recipient's information on the label is correct with the following information:

USDA APHIS Wildlife Services
732 Lois Drive
Sun Prairie, WI 53590
(608) 837-2727
UPS account#

Packages can be sent via UPS ground or next day air shipping within WI; ground shipping will be delivered overnight to USDA.

- c. Contact the Dead Bird Reporting Hotline at 1-800-433-1610 to indicate that you are sending a package.

10. Styrofoam boxes, coldpaks, and shipping labels for shipping birds can be sent to you upon request. Please contact the Dead Bird 'Hotline' staff at 1-800-433-1610 to request containers for corvid shipments.

***** For other bird species, contact the Dead Bird hotline or local DNR office to find out whether it can be tested for WNV or other diseases by the DNR.**

Attachment D: Wisconsin West Nile Virus Surveillance- Sick/Dead Bird Reporting Form

USDA APHIS Wildlife Services Disease Program
Wisconsin Division of Public Health
Wisconsin Department of Natural Resources

For Office use only:
PHIN ID # : _____

Rev05/2012

Wisconsin West Nile Virus Surveillance: **Sick/Dead Bird Reporting Form**

Person Completing Form:

Name: _____ Date: ____/____/____

Agency: _____ Phone: _____

Dead Corvid (crow, blue jay, raven) Information:

Species: _____ Date Bird found: ____/____/____

Bird mortality (check one): found dead _____ euthanized _____

Location where dead bird was found:

Address/Location: _____ City: _____

County: _____ State: _____ Zip Code: _____

1) Were other sick/dead birds found near this bird? Yes ____ No ____

2) Describe sick bird behavior _____

3) Other information _____

Is this bird being submitted for WNV testing? Yes ____ No ____

Date collected: ____/____/____

Lab Information (to be completed by lab staff only - please check all samples collected)

Sample collected: ☐ Skin ☐ Cloacal Swab ☐ Oropharyngeal swab
☐ Kidney ☐ Liver ☐ Brain ☐ Spleen

Bird Age: _____ Sex of Bird: ☐ M ☐ F ☐ U

TO SHIP A DEAD CORVID: When shipping a bird for WNV testing, include a copy of this form with the carcass.

TO ONLY REPORT A DEAD CORVID: With prior approved access, enter this information into the PHIN web-based bird reporting system or FAX or phone this information to Dead Bird Hotline staff. FAX: 608 837-6754 or PHONE: 1-800-433-1610.

Attachment E. CDC Supplementary Questionnaire (rev04/11)**Questions to Assess Underlying Medical Conditions and Medication Use**

CDC Supplementary Questionnaire for Confirmed WNV (rev04/11)

1. Before your West Nile virus infection, did a health care provider ever tell you that you had any of the following medical conditions?

Diabetes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
High blood pressure (hypertension)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Heart attack (myocardial infarction)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Angina or coronary artery disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Congestive heart failure (CHF)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Stroke	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Chronic obstructive pulmonary disease (COPD)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Chronic liver disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Kidney failure or chronic kidney disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Alcoholism	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Bone marrow transplant	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Solid organ transplant	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown

If yes: What organ was transplanted?: _____

What year was the transplant?: _____

Cancer ☐ Yes ☐ No ☐ Unknown

If yes: What type(s)?: _____

What year were you diagnosed?: _____

Are you currently being treated for cancer?: ☐ Yes ☐ No ☐ Unknown

2. Before your West Nile infection, did a health care provider ever tell you that you had a medical condition that limited your ability to fight an infection? ☐ Yes ☐ No ☐ Unknown

If yes: What condition(s)?: _____

3. At the time you were diagnosed with West Nile virus infection, were you taking any of the following types of prescription medications or treatments?

Chemotherapy	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Other treatments for cancer	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Hemodialysis	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Other treatments for kidney disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Oral or injected steroids (not inhaled or topical)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Insulin or other medications to treat diabetes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Medications to treat high blood pressure	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Medications to treat coronary artery disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Medications to treat congestive heart failure	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Medications that suppress the immune system	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown

4. Which of the following sources provided the information above? (**check all that apply**)

Patient	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Family member/friend	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Provider	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Medical record	<input type="checkbox"/> Yes	<input type="checkbox"/> No
